IRITIS:

Its Relation to the Rheumatic Diathesis and its Treatment.

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Every physician has an opportunity of observing the close relations which many eye affections bear to constitutional or general diseases. The more minutely he examines his cases the more apparent do these relations become, and the more frequently will they be observed. While it will be conceded that eye diseases which owe their origin to some constitutional dyscrasia are not of infrequent occurrence, yet the literature on the subject is both scanty and unsatisfactory. It is true, our text-books do, in many instances, refer to the matter, but as a rule the subject is dismissed with the bare reference, and little is said to guide the physician regarding the most approved plan of general therapeutics. The importance of a correct guide to the general treatment would be more fully appreciated were it known that in many cases the eye disease is only a local expression of a constitutional or general disorder. The importance of such a guide would be still further appreciated were it shown that in many instances the severity and the duration of the eye disease would be greatly influenced by the general

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treatment of the case. This is especially true of the disease which I have chosen as the subject of this paper. When a particular form of local inflammation is frequently observed in persons suffering from certain general diseases, it naturally leads us to suppose that the local trouble is the effect of a cause which is general. This opinion will be verified if the therapeutic measures, directed against the general disease, exert a decidedly beneficial influence upon the local inflammation.

The iris is frequently the seat of severe inflammation, and such inflammation is quite liable to seriously impair vision or even to destroy it. In a vast majority of cases, in which the iritis is not the result of injury, it will be found closely related to one general disease or another. We may then very properly look for its cause in some constitutional dyscrasia. We will not always be able to say what is this general disorder that disposes the iris to inflammatory attacks, but in most instances we will be well rewarded for the trouble of investigation. Of all constitutional or general diseases which stand in relation of cause to iritis, rheumatism and syphilis are the most prominent. In other words, persons of a rheumatic diathesis and persons actually suffering from rheumatism, as well as persons suffering from constitutional syphilis are attacked with iritis much more frequently than persons who do not suffer from these diseases. In so far as these statements refer to the relations which exist between rheumatism and iritis they do not coincide with the views of some high authorities. For example, Sir Jonathan Hutchinson, in his lecture before the Ophthalmological Society of the United Kingdom, has said: "Iritis associated with ordinary rheumatic fever or with that type of arthritis to which the name 'crippling rheumatism' may be given; or in other words, iritis in association with either acute or chronic rheumatism, is extremely rare." This, coming as it does from the pen of one of the leading medical men of England, has great influence on medical opinion, for no man is better known or more respected than Sir Jonathan Hutchinson. Mr. Hutchinson's statement may be correct in so far as it relates to experience in England. That it is not correct in so far as it relates to experience in America I am convinced, and to show this in an humble way will be the object of this paper.

It has been my misfortune to see a large number of cases of iritis both in public and private practice, and in a considerable number, the patient was either actually suffering from general rheumatism or was of an undoubted rheumatic diathesis. It has also been my misfortune to see many cases in which the nature of the eye trouble, or its relation to the rheumatic diathesis, was not suspected until serious and irreparable damage had been done. While it would neither be profitable nor practical to report all such cases, yet I shall give a very brief outline of the history of a few cases, all of which occurred in my private

practice. They will, I think, show the correctness of my statement and establish my position.

Case I.—A. B., aged forty-five, molder, consulted me February 23, 1882. For two years he had suffered from attacks of subacute rheumatism. His limbs were much affected by these repeated attacks, and he was so badly crippled that for several months he was unable to pursue his work as a molder. Indeed it would have been impossible for him to pursue work of any kind. While suffering in this way he was attacked with iritis in both eyes. His physician did not understand the nature of his eye affection and while trying to control the ocular inflammation with a collyrium of zinc, very firm posterior synechia formed in both eyes. When he consulted me he was suffering from double iritis of moderate severity and his limbs were painful and joints were swollen. The rheumatic trouble was general and involved both upper and lower extremities. Under a general treatment consisting mainly of sodium salicylate and potassium iodide with local treatment consisting in the main of atropia and protection of the eyes from light, and of rest, his iritis subsided after a short time. Unfortunately, however, the adhesions which formed between the iris and the lens capsule were too firm to be broken up by any mydriatic. This patient has since suffered from general rheumatism.

Case II.—Mrs. A. C., aged twenty-eight, of Trenton, Michigan, came to consult me July 6, 1882. She had suffered from "attacks of rheumatism" several times. She had endocarditis during at least one attack of acute rheumatism, and as a result of this she had valvular lesions which caused her much distress. For two or three years before consulting me she had no severe attack of rheumatism, but during the changeable weather, incident to fall and spring, in this climate, she had mild attacks of her old trouble. In the spring of 1882 the rheumatic trouble in her limbs had been more persistent than usual, and for some time before consulting me her right eye had been irritable and painful. On examination I observed much ciliary injection, discoloration of the iris, and immobility of the pupil, in which there was a slight inflammatory exudate. There was dread of light, flowing of tears, severe ciliary pain, and impaired vision. The diagnosis was iritis and the disease was ascribed to the *materies morbi* which produce rheumatism. On account of her heart lesion this patient could neither take salicylic acid nor the salicylates. The internal treatment consisted of the alkalies and potassium iodide. Locally atropia was employed with rest and protection of the eyes from light. The adhesions between the iris and lens capsule were broken up and a good recovery followed. This patient had a recurrence of her iritis at a later period and the iritic inflammation was attended with complications which left corneal opacities and posterior synechia.

Case III.—A. D., aged twenty-four, railroad man, consulted

me September 11, 1882. He had suffered severely from acute inflammatory rheumatism at different times. During the summer and fall of 1881 he suffered severely and was confined to the house all of that time, and for many weeks was unable to leave his bed. When he consulted me he was suffering from a mild attack of rheumatic arthritis, his knees and ankles were much swollen and he was very badly crippled. If ever the term crippling rheumatism could be appropriately employed this was a case that deserved the appellation. For some days before consulting me his right eye had been painful and inflamed. On examination the eye was found congested and reddened, it was tender to the touch, the iris was congested and discolored, the pupil was irresponsive to light and was bound down by posterior synechia, and fibrinous inflammatory exudate could be seen in the pupil. The subjective symptoms were pain, photophobia, lachrymation and dimness of vision. The diagnosis was acute plastic iritis as in the preceding case, and the iritic inflammation was considered to be simply a local expression of the general disease, namely, rheumatism. This patient had been treated with salicylic acid and the salicylates, but they were badly borne and could not be given in sufficient doses to be of any great benefit. I ordered alkalies, alternated with free doses of potassium iodide as the general treatment. Locally I used the artificial leech to the temple, instilled atropia and protected the eye from light. The patient made a good but not rapid recovery. On the first of March, 1883, he again came under my care for iritis. When almost well he exposed himself on a cold damp night by running on his train to Toledo, and had a severe relapse of his iritis and of the general rheumatism, and he was left finally with partial but firm adhesions of the iris to the lens capsule.

Case IV.—A. E., aged thirty-three, printer, consulted me July 8, 1883. For several years he had suffered off and on from subacute rheumatism. He was not crippled, however, and had not had an acute attack of rheumatism at any time. He was always affected by sudden atmospheric changes, especially if the atmosphere was damp. While returning from his night's work in a chilly rain in June, he got wet, and after this wetting his rheumatism was a little more troublesome than usual. Three days before consulting me his right eye became "weak, irritable and red," and for twenty-four hours it was quite painful. On examination, the diagnostic signs and symptoms of acute plastic iritis were found to be present, and the posterior surface of the iris was extensively adherent to the lens capsule. During the time spent in the office a solution of atropine, four grains to the ounce, was instilled several times. Only a very slight dilatation of the pupil in an upward direction was observed, the remaining portion of the pupil (about five-sixths) being still firmly bound down. The general directions regard-

ing rest, protection of the eye from light, etc., were given, and he was ordered fifteen grains of salicylic acid every third hour. After taking three doses of the salicylate the physiological effects showed themselves in a marked degree. Indeed the physiological action of the drug was followed by what might be termed poisonous effects, such as vomiting, severe diarrhœa, profuse perspiration and prostration. As soon as the action of the acid manifested itself he experienced "complete relief from pain in the eye and all stiffness and soreness left his limbs." When he visited me twenty-four hours after the first consultation, I was much surprised to find that not only was his eye looking infinitely better, but that his pupil was dilated to the fullest extent. Indeed, there remained hardly anything to indicate that a severe inflammation of the eye had existed in the recent past. His iritis terminated as if by some magic influence.

Case V.—A. F., aged twenty-eight, clerk, consulted me May 17, 1884. For four years he had suffered more or less constantly from rheumatism. Two years before the date of consultation he was attacked with acute inflammatory rheumatism and was confined to the house for five months, one-half of which time he was bed-ridden. Nearly all the joints of his body were affected by turns, and some of them, especially his knees, were greatly swollen. After this attack he suffered from what might be called subacute rheumatism and he was not free from it at any time until he came under my care. When he consulted me his general rheumatism was worse than it had been for months previous. For three days before I first saw him his right eye had been inflamed and painful, and the pain was gradually increasing. On examination the following objective signs were observed: much ciliary congestion, slight discoloration of iris, pupil irresponsive to light, slight fibrinous exudate in pupil, spasm of lid and copious lachrymation. Subjective symptoms: pain, dread of light and impairment of vision. Diagnosis—acute plastic iritis, rheumatic in its origin. Local treatment—instillation of a four grain solution of atropia every three hours, rest, and protection of the eye from light. The general treatment consisted of sodium salicylate, twenty-two and one-half grains every three hours. In twenty-four hours his eye was more painful and he had been unable to sleep on account of the severity of the pain. The pupil was more contracted and adhesion to the lens capsule had formed. As the salicylate had not produced the physiological action of the drug, I ordered forty-five grains to be taken at each dose every third hour. Twenty-four hours later he returned saying that after the second dose of forty-five grains of the salicylate he experienced the well-known effect of the drug and, that simultaneously with it all pain in the eye had ceased. His pupil was now widely dilated and the fibrinous exudate from the inflamed iris was almost entirely absorbed. For the first time

in two years he declared himself free from his rheumatism, and he now keeps a solution of the salicylate of soda constantly on hand, although he fortunately has little need for it.

Case VI.—A. G., aged forty-two, consulted me January 19, 1884. He had suffered from rheumatism for many years. About ten years ago he had an acute attack of inflammatory rheumatism, but since that time his rheumatism has been chronic in character with occasional subacute attacks. He has had two attacks of iritis before and his medical attendant told him the iritis was "rheumatic." On examination his right eye was found to be much congested, especially in the ciliary region, the pupil contracted, iris dull, and discolored, and old posterior synechia in lower portion of iris. The usual subjective symptoms were present. Rest, protection of the eye from light, atropia and artificial leech to the temple constituted the local treatment. Internally sodium salicylate was given in twenty grain doses every two hours. His iritis soon improved and in one week all active signs and symptoms subsided, but the eye remained congested for some time longer. On the twelfth day he was dismissed cured, but of course the old posterior synechia remained. The iritis was of much longer duration than in the three preceding cases, and yet it was comparatively short.

Case VII.—A. H., aged thirty-four, butcher, consulted me March 31, 1885. Five years previously he had an attack of acute inflammatory rheumatism which confined him to the house for six months. For three months he was bed-ridden, and on account of a heart complication (which I believe to have been pericarditis) his life was dispaired of. Since that time he has suffered from occasional attacks of subacute rheumatism after exposure to wet and cold. During one of these attacks of rheumatism his left eye became painful and inflamed, and on that account he consulted me. On examination his eye presented the appearance so often observed in the early stage of panophthalmitis or general inflammation of the eyeball. The ocular conjunctiva was so œdematous, that it, looked like an immense blister or bleb. The cornea had a lack lustre appearance, the aqueous humor was turbid, the pupil fixed, iris discolored and "muddy" looking, and in the lower portion the immensely distended vessels of the circulus-iridis-minor could be seen, some of which had evidently ruptured, as red blood corpuscles could be seen in the bottom of the anterior chamber. The pupil was partially occupied with a recent, unorganized inflammatory exudate which was undoubtedly mainly fibrinous. No satisfactory view of the fundus could be obtained, owing to the hazy condition of the aqueous and the fibrinous exudation in the pupil. The pain was intense and the vision was reduced to the inability to count fingers at six inches, while photophobia and lachrymation were marked. The local treatment con-

sisted of free scarification of the œdematous ocular conjunctiva, the extraction of three ounces of blood from the temple by the artificial leech, and the free use of atropine. These measures had little effect on the pain, and cocaine was also instilled and with marked success. He was ordered twenty-five grain doses of the salicylate of soda every three hours and instillations of atropia as often. After three doses of the salicylate of soda were taken he experienced great relief from pain, and I am glad to be able to say that his eye was never painful thereafter, while he took the salicylate. His eye improved rapidly, the aqueous cleared up, the exudate was absorbed from the pupil except at a small point where a firm adhesion had formed between pupillary margin and lens capsule, and vision rapidly increased. At the end of five days the salicylate was discontinued because of its diagreeable effects, and he was ordered potassium iodide in free doses. At the end of the third day thereafter the iodide was discontinued because the patient had grown worse—the eye had become much congested, the pain increased and the vision diminished. He was again put upon the sodium salicylate, but smaller doses were given, and he at once improved as if by magic. The improvement was uninterrupted until he was dismissed cured, but with a posterior synechia and his vision $\frac{20}{20}$ or normal.

Case VIII.—A. I., aged twenty-nine, clerk, consulted me May 28, while this paper was in preparation. He had suffered from rheumatism for several years. Twice he had "rheumatic fever" and each attack had confined him to bed for several weeks. From the date of his first attack, nearly six years ago, he has not been entirely free from his rheumatism, but for a considerable portion of the time he has not suffered much annoyance, except from the partial crippling of his limbs. For three weeks before consulting me he had been suffering from a subacute attack, and his joints were more swollen than they usually have been of late. His left eye had been irritable and painful for two days and the pain had been more severe for twenty-four hours. On examination his eye presented the following appearances: ciliary region intensely congested, the whole eyeball congested to a lesser degree, iris congested, pupil contracted, and irresponsive to light, spasm of lid and free flowing of tears. Subjective symptoms were pain in the eye, temple and forehead, dread of light and some impairment of vision. He was informed that his disease was iritis and that it was "rheumatic" in character. Atropia was instilled several times and produced a very slight dilatation of the pupil. He was ordered salicylate of sodium, twenty-five grains, every three hours, and instillation of atropia as often. Next morning, sixteen hours after the first visit, the appearance was about the same, except the pupil was dilated to nearly its normal size, and I could discover no adhesions. Pain in the

eye, however, was not relieved by the atropia. Treatment continued without change. On his return the next morning he declared himself very much worse. His eye had been so painful that he slept not at all during the preceding night. On examination a fibrinous exudate from the iris could be seen like a veil in the pupil, the pupil itself was contracted and for the first time the iris appeared dull and "muddy" looking. I could not say that his general rheumatism was much worse, but it certainly was not better, and his vision was greatly reduced. To control his pain I was tempted to use cocaine, but determined to try the salicylate of sodium in large doses. Fifty grains were ordered every third hour, and atropia as before. Four doses or two hundred grains of the salicylate were taken before he retired in the evening and with the most happy results. After the third dose of fifty grains was taken, he obtained complete relief from pain in both his eye and his limbs, and he slept the whole night. On his visit next day his pupil was well dilated but not *ad maximum*, the ciliary congestion was greatly diminished, and there remained not a trace of the fibrinous exudate which occupied the pupil on the day before; and vision was greatly improved.

After taking four doses of fifty grains of the salicylate he was directed to take twenty-five grains per dose, but these directions were not strictly followed. In one week after first consultation his iritis was apparently cured, and he was given a four grain solution of atropia to use several times daily and instructed to return if all did not go well. In three days he returned, saying his eye had been quite painful the preceding night. On examination it was found there was much ciliary congestion, that the pupil was much smaller than when last examined, but still as large as normal, that there was dread of light and profuse lachrymation. While he admitted that the sodium salicylate had not been taken as directed, he insisted that atropia had been instilled into his eye four times daily. It certainly was remarkable that the atropia used in this way was not sufficient to keep up the mydriasis. He was ordered to take fifty grains of the sodium salicylate every third hour till pain was relieved. Two doses were sufficient to produce entire relief from pain, which has not since returned. On his return next day his eye was greatly improved in all respects, and his pupil was again fully dilated. So far as his iritic inflammation is concerned he is well, but his salicylate of sodium must be continued to guard against a relapse.

I could report many other cases of iritis in rheumatic subjects did occasion demand it. Indeed, others have been reported in my published clinical lectures. These cases should be sufficient to show that there exists an intimate relation between rheumatic diathesis on the one hand and iritis on the other.

The cases are instructive for several of them show in a very

forcible manner the great and beneficial influence which internal remedies may exert upon the local inflammation. They also show the necessity which may often arise for prompt and active measures. The eye is a delicate organ and an acute inflammation in it may do irreparable injury in a short time, so that energetic means are called for when the eye is the seat of inflammation. It may be said there was no necessity for giving such large doses of medicine as were administered in some of these cases, and if the joints were alone involved, I admit the argument would be a good one. The old adage which says "There is danger in delay," applies well to the treatment of iritis. If internal remedies will, in large doses, quickly control the pain in the eye as we have seen the salicylate of sodium do in cases IV, V, and VIII, large doses should be given. In iritis occurring in rheumatic subjects salicylic acid or the salicylates should be given in doses sufficiently large to produce the full physiological action of the drug. If the salicylate of sodium is given the dose may vary from twenty to fifty or more grains, as may be required, and half that quantity of salicylic acid may be administered. While anti-rheumatic remedies are of very great importance in the treatment of iritis occurring in rheumatic patients (for they lessen the eye pain and favor the action of local remedies), yet they are of secondary importance. No one should think of treating iritis, no matter what its cause, without the use of mydriatics. The local treatment itself, if begun early and well carried out, would be sufficient to cure most cases of iritis. The use of mydriatics is of the first importance. Atropia undoubtedly stands at the head of the list, and should be used unless it irritate and inflame the conjunctiva, as it occasionally does. In such instances duboisia may be substituted. A solution of the sulphate of atropia (the alkaloid should never be used), four to eight grains to the ounce, should be instilled four to six times in twenty-four hours to dilate the pupil if possible. If the pupil dilates well, the posterior surface of the iris no longer comes in contact with the lens capsule and adhesions, or synechia, do not take place.

If dilatation of the pupil is once effected the inflammation is likely to quickly subside. However, as we saw in case VIII, this is not always the case. When the pupil is widely dilated the iris is compressed into a comparatively small space, and the blood so to speak is squeezed out of its vessels. The effect which this has upon the inflammation is essentially the same as cutting off the blood supply would have upon inflammations elsewhere. It is by dilating the pupil and bringing about these favorable conditions that atropine is so valuable in the treatment of iritis. Cocaine is a valuable adjuvant in the treatment of iritis. It has great influence in controlling ciliary pain and irritation which always militate against the mydriatic action of atropine. Then again the cocaine itself is a mydri-

atic of considerable potency and it is thus a double aid to atropine. The local abstraction of blood is of much importance in severe cases of iritis. I have seen the pain almost entirely relieved after the use of the artificial leech. From two to three ounces of blood should be taken from the temple. If necessary this may be repeated. Protection of the eye from light is necessary. Even the well eye, if the disease is unilateral, should be shaded by a colored glass when the patient ventures out in the light. Absolute rest of the eyes is obligatory, and this rest should be afforded for sometime after the inflammation has subsided. I have seen relapses occur from attempts to use the eye too soon.